

CLAIMS:

1. A pharmaceutical carrier device comprising a layered film having a first water-erodable adhesive layer to be placed in contact with a mucosal surface, and a second, water-erodable non-adhesive backing layer, wherein said device is capable of having a pharmaceutical incorporated within said first layer, said second layer, or both layers.

2. The pharmaceutical carrier device of claim 1, wherein said first water-erodable adhesive layer comprises an alkyl cellulose or hydroxyalkyl cellulose and a bioadhesive polymer.

3. The pharmaceutical carrier device of claim 1, wherein said first water-erodable adhesive layer comprises a film forming polymer selected from hydroxyethyl cellulose, hydroxypropyl cellulose, hydroxypropylmethyl cellulose, hydroxyethyl methyl cellulose, polyvinyl alcohol, polyethylene glycol, polyethylene oxide, ethylene oxide-propylene oxide co-polymers, collagen and derivatives, gelatin, albumin, polyaminoacids and derivatives, polyphosphazenes, polysaccharides and derivatives, or chitin and chitosan, alone or in combination, and a bioadhesive polymer selected from polyacrylic acid, polyvinyl pyrrolidone, or sodium carboxymethyl cellulose, alone or in combination.

4. The pharmaceutical carrier device of claim 1, wherein said second water-erodable non-adhesive backing layer comprises hydroxyethyl cellulose, hydroxypropyl cellulose, hydroxyethylmethyl cellulose, hydroxypropylmethyl cellulose, polyvinyl alcohol, polyethylene glycol, polyethylene oxide, or ethylene oxide-propylene oxide co-polymers, alone or in combination.

5. The pharmaceutical device of claim 1, wherein a pharmaceutical is present in said first water-erodable adhesive layer.

6. The pharmaceutical device of claim 1, wherein said layered film has two layers and a total thickness of from 0.1 mm to 1 mm.

7. The pharmaceutical device of claim 1 which further comprises a third layer between said first adhesive layer and said second backing layer and wherein said third layer is a water-erodable, adhesive layer which has a surface area sufficient to encompass said first adhesive layer and contact the mucosal surface.

8. The pharmaceutical device of claim 7, wherein a pharmaceutical is present in said first adhesive layer.

9. The pharmaceutical device of claim 1, wherein one or more of the layers further comprises a component which acts to adjust the kinetics of the erodability of the device.

10. The pharmaceutical device of claim 9 wherein the component is a water-based emulsion of polylactide, polyglycolide, lactide-glycolide copolymers, poly-ε-caprolactone and derivatives, polyorthoesters and derivatives, polyanhydrides and derivatives, ethyl cellulose, vinyl acetate, cellulose acetate, or polyisobutylene, alone or in combination.

11. The pharmaceutical device of claim 9 wherein the component is alkyl-glycol, propylene glycol, polyethyleneglycol, oleate, sebacate, stearate or esters of glycerol, or phthalate.

12. The pharmaceutical device of claim 7, wherein one or more of the layers further comprises a component which acts to adjust the kinetics of the erodability of the device.

13. The pharmaceutical device of claim 12 wherein the component is a water-based emulsion of polylactide, polyglycolide, lactide-glycolide copolymers, poly-ε-caprolactone

and derivatives, polyorthoesters and derivatives, polyanhydrides and derivatives, ethyl cellulose, vinyl acetate, cellulose acetate, or polyisobutylene, alone or in combination.

14. The pharmaceutical device of claim 12 wherein the component is alkyl-glycol, propylene glycol, polyethyleneglycol, oleate, sebacate, stearate or esters of glycerol, or phthalate. -

15. The pharmaceutical device of claim 1, wherein said pharmaceutical capable of being incorporated within said first layer, said second layer, or both layers comprises an anti-inflammatory analgesic agent, a steroidal anti-inflammatory agent, an antihistamine, a local anesthetic, a bactericide, a disinfectant, a vasoconstrictor, a hemostatic, a chemotherapeutic drug, an antibiotic, a keratolytic, a cauterizing agent, an antiviral, an antirheumatic, an antihypertensive, a bronchodilator, an anticholinergic, an antimenimic compounds, a hormone, a macromolecule, a peptide, a protein, or a vaccine alone or in combination.

16. The pharmaceutical device of claim 1, wherein said first water-erodable adhesive layer comprises hydroxypropyl cellulose, hydroxyethyl cellulose, polyacrylic acid, and sodium carboxymethyl cellulose; said second water-erodable non-adhesive backing layer comprises hydroxyethyl cellulose and hydroxypropyl cellulose; and said pharmaceutical capable of being incorporated comprises dyclonine Hcl.

17. A layered film disk which adheres to mucosal surfaces for the localized delivery of pharmaceutical, comprising a first adhesive layer and a second non-adhesive backing layer, said pharmaceutical or combination of pharmaceuticals present in said first adhesive layer, or said second non-adhesive backing layer, or both said first adhesive layer and said second non-adhesive backing layer, said layered film having a total thickness of from 0.1 mm to 1 mm.

18. The layered film disk of claim 17, wherein said pharmaceutical or combination of pharmaceuticals comprises an anti-inflammatory analgesic agent, a steroidal anti-inflammatory agent, an antihistamine, a local anesthetic, a bactericide, a disinfectant, a vasoconstrictor, a hemostatic, a chemotherapeutic drug, an antibiotic, a keratolytic, a cauterizing agent, an antiviral, an antirheumatic, an antihypertensive, a bronchodilator, an anticholinergic, an antimenimic compounds, a hormone, a macromolecule, a peptide, a protein, or a vaccine, alone or in combination.

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10 19. A method for treating mucosal surfaces, surrounding tissues, and bodily fluids, comprising applying an adherent film at the treatment site for the protection of said treatment site and delivery of pharmaceutical to said mucosal surface, said surrounding tissues, and said bodily fluids, said adherent film comprising a layered pharmaceutical carrier device which is water-erodable.

15 20. The method of claim 19, wherein said layered pharmaceutical carrier device comprises a first water-erodable adhesive layer and a second water-erodable non-adhesive backing layer, said first and second layers each having a thickness of from 0.01 mm to 0.9 mm.

20 21. The method of claim 20, wherein said layered carrier device further comprises a pharmaceutical incorporated within said first or second layer.

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25 22. The method of claim 21, wherein said first water-erodable adhesive layer comprises a film forming polymer selected from hydroxyethyl cellulose, hydroxypropyl cellulose, hydroxypropylmethyl cellulose, or hydroxyethylmethyl cellulose, alone or in combination, and a bioadhesive polymer selected from polyacrylic acid, polyvinyl pyrrolidone, or sodium carboxymethyl cellulose, alone or in combination.

23. The method of claim 22, wherein said second water-erodable non-adhesive backing layer comprises hydroxyethyl cellulose, hydroxypropyl cellulose, hydroxyethylmethyl cellulose, hydroxypropylmethyl cellulose, polyvinyl alcohol, polyethylene glycol, polyethylene oxide, or ethylene oxide-propylene oxide co-polymers, alone or in combination.

24. The method of claim 23, wherein said pharmaceutical comprises an anti-inflammatory analgesic agent, a steroidal anti-inflammatory agent, an antihistamine, a local anesthetic, a bactericide, a disinfectant, a vasoconstrictor, a hemostatic, a chemotherapeutic drug, an antibiotic, a keratolytic, a cauterizing agent, an antiviral, an antirheumatic, an antihypertensive, a bronchodilator, an anticholinergic, an antimenimic compounds, a hormone, a macromolecule, a peptide, a protein, or a vaccine alone or in combination.

25. A method for treating wounds or burns of the skin comprising applying an adherent film at the treatment site for the protection of said treatment site and delivery of pharmaceutical to the skin, said adherent film comprising a layered pharmaceutical carrier device which is water-erodable.

26. The method of claim 25, wherein said layered pharmaceutical carrier device comprises a first water-erodable adhesive layer and a second water-erodable non-adhesive backing layer, said first and second layers each having a thickness of from 0.01 mm to 0.9 mm.

27. The method of claim 26, wherein said layered carrier device further comprises a pharmaceutical incorporated within said first or second layer.

28. The method of claim 27, wherein said first water-erodable adhesive layer comprises a film forming polymer selected from hydroxyethyl cellulose, hydroxypropyl cellulose, hydroxypropylmethyl cellulose, or hydroxyethylmethyl cellulose, alone or in combination,

and a bioadhesive polymer selected from polyacrylic acid, polyvinyl pyrrolidone, or sodium carboxymethyl cellulose, alone or in combination.

29. The method of claim 28, wherein said second water-erodable non-adhesive backing layer comprises hydroxyethyl cellulose, hydroxypropyl cellulose, hydroxyethylmethyl cellulose, hydroxypropylmethyl cellulose, polyvinyl alcohol, polyethylene glycol, polyethylene oxide, or ethylene oxide-propylene oxide co-polymers, alone or in combination.

30. The method of claim 29, wherein said pharmaceutical comprises an anti-inflammatory analgesic agent, a steroidal anti-inflammatory agent, an antihistamine, a local anesthetic, a bactericide, a disinfectant, a vasoconstrictor, a hemostatic, a chemotherapeutic drug, an antibiotic, a keratolytic, a cauterizing agent, an antiviral, an antirheumatic, an antihypertensive, a bronchodilator, an anticholinergic, an antimenimic compounds, a hormone, a macromolecule, a peptide, a protein, or a vaccine alone or in combination.

31. A method of protecting a site in the oral cavity comprising applying an adherent film to the treatment site of the oral cavity, said adherent film comprising a first water-erodable adhesive layer to be placed in contact with the treatment site and a second, water-erodable non-adhesive backing layer.

32. A method for systemic delivery of a pharmaceutical comprising applying an adherent film to mucosal tissue or skin, said adherent film comprising a layered pharmaceutical carrier device which is water-erodable.

33. The carrier device of Claim 1 wherein the carrier device has a solvent content of from about 1 to about 15 % by weight.